

Serial No.: 10/751,153  
Group Art Unit: 2616  
Examiner: Frank Duong

In the claims:

Claims (1-15) canceled.

16 (previously presented). An enhanced Distance Vector Multicast Routing Protocol (DVMRP) method for regulating one or more multicast streams in a first router, comprising the steps of:

transmitting, by the first router with local interfaces, a plurality of DVMRP probe messages on those local interfaces;

monitoring the local interfaces, by the first router, for DVMRP probe messages from neighboring multicast routers that are adjacent to the first router or are accessible via a multi-access network link;

if a DVMRP probe message is detected by the first router on an interface, marking internally, by the first router, that interface as a branch interface;

if the DVMRP probe message detected by the first router is the first branch detected, transmitting, by the first router, a route report to neighbors on the first branch;

if the DVMRP probe message detected by the first router is other than the first branch detected, transmitting, by the first router, to any previously detected neighbors, a flash router report with unreachable metric for the newly detected branch; and

transmitting, by the first router, to the newly detected branch a route report omitting reference to the previously detected branches and routes associated with those branches.

17 (new). The method in claim 16, and further wherein if the DVMRP probe message detected by the first router is the first branch detected, detecting subsequent neighbors on the same branch interface, and transmitting, by the first router, a unicast route report to each detected neighbor on the same branch interface.

18 (new). The method in claim 16, and further wherein if the DVMRP probe message detected by the first router is the first branch detected, the branch interface being a leaf interface.

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19 (new). The method in claim 16, and further wherein if the DVMRP probe message detected by the first router is other than the first branch detected, transmitting, by the first router, a flash update to any previously detected neighbor multicast routers.

20 (new). The method in claim 19, wherein said flash update at least for removing any local routes associated with other DVMRP enabled interfaces previously listed as being accessible.

21 (new). The method in claim 20, wherein said flash update further at least for removing any references to dependent multicast routers on the newly detected branch.

22 (new). The method in claim 16, wherein in said step of transmitting, by the first router, to the newly detected branch a route report omitting reference to the previously detected branches and routes associated with those branches, the route report includes a listing of the routes accessible through the interface of first router.

23 (new). The method in claim 22, wherein in said step of transmitting, by the first router, to the newly detected branch a route report omitting reference to the previously detected branches and routes associated with those branches, the route report further includes the good cost metrics associated the routes accessible through the interface of the first router.